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Illinois
Environmental
Protection Agency

Division of Public Water Supplies
2200 Churchill Road
Springfield, Illinois 62706

26913067

Groundwater Quality Protection Program

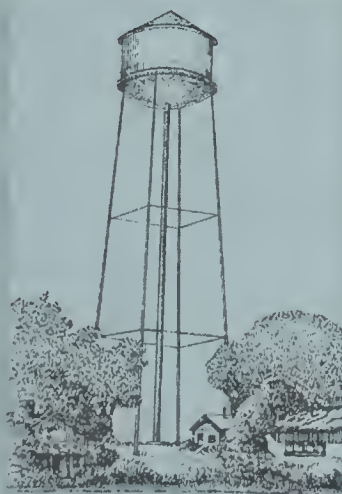
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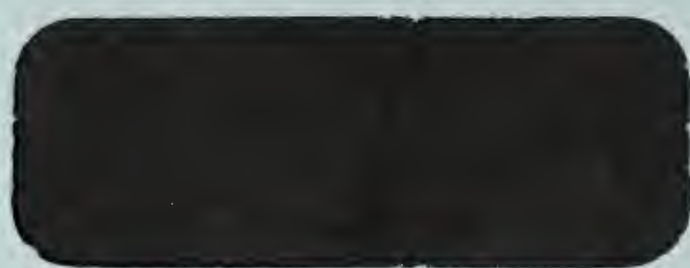
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ILLINOIS DOCUMENTS

LAKE VILLA
FACILITY NUMBER 0970840
WELL SITE SURVEY
REPORT

Division of Public Water Supplies





GROUNDWATER QUALITY PROTECTION PROGRAM:

LAKE VILLA
FACILITY NUMBER 0970840
WELL SITE SURVEY
REPORT

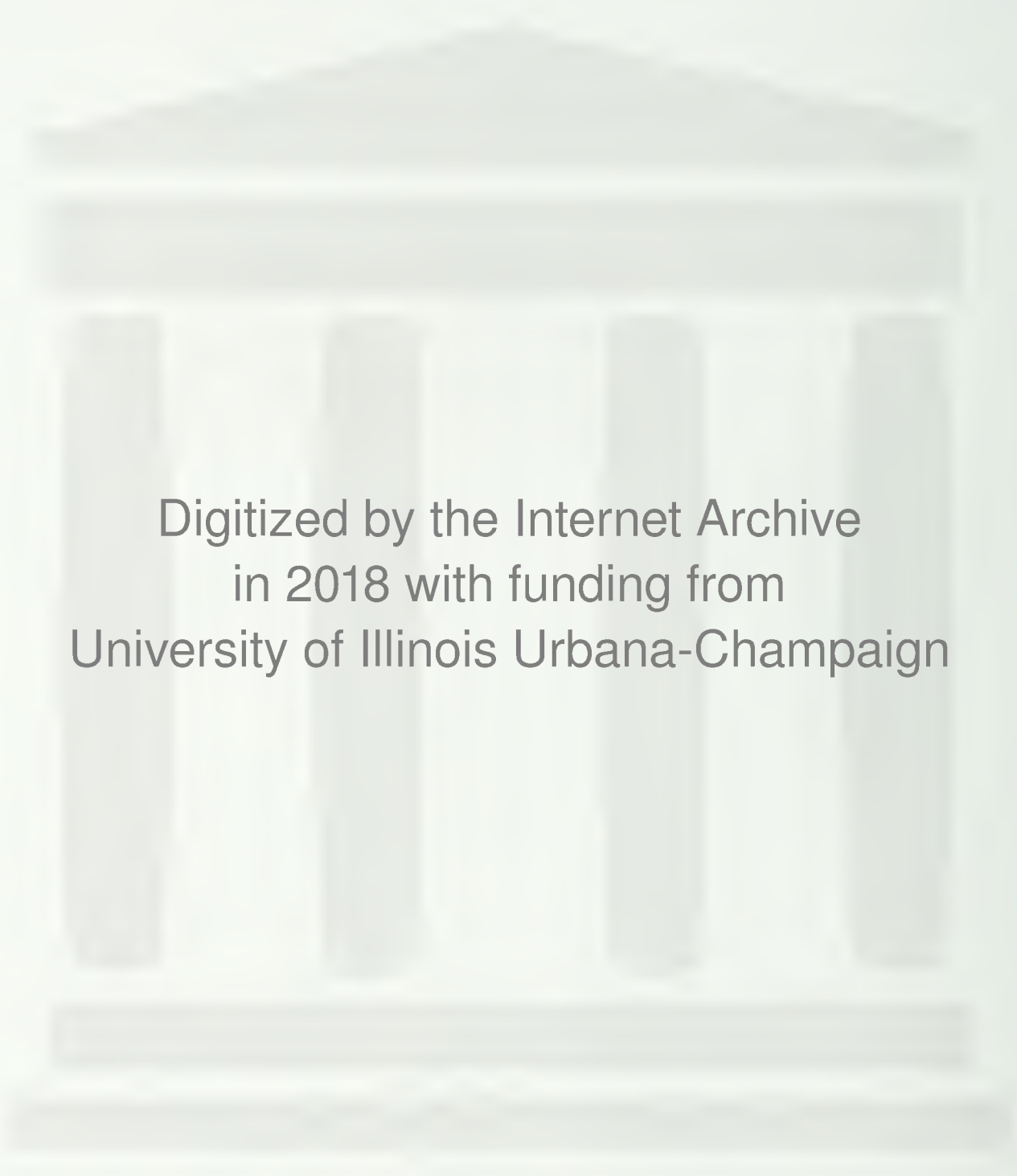
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Division of Public Water Supplies

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INTRODUCTION

This report has been prepared by the Agency pursuant to Section 17.1 of the Illinois Environmental Protection Act. The report summarizes information about your facility, and samples collected and analyzed from your well(s). The well site survey provides an inventory of the area around your well(s) to help increase your awareness of potential hazards to groundwater utilized by your facility. This information and technical data will assist you in developing and implementing local groundwater protection measures authorized by the Act.

FACILITY DESCRIPTION AND GEOLOGIC PROFILE OF WELL SITES

Lake Villa has four public water supply wells. The facility produces 209,000 gallons per day on average to an estimated population of 2857. See Table I for a description of each well. Permeability is a measure of the ability of a soil or sediment to transmit fluids. A detailed description and geologic profile is found in the Facility Wells Report (Appendix C).

TABLE I

	Min. Set- Back (ft.)	Max. Set- Back (ft.)	Status	Cap. (gpm) (MGD)	Spec. Cap. (gpm/ ft)	Treat- ment	Aquifer	Well Depth (ft)	Well Log Avail
Well No. 2 (20262)	400		A	120 .173	N/A	C1	Sand & Gravel	156	
Well No. 4 (20264)	400		A	225 .324	N/A	C1	Sand & Gravel	153	
Well No. 5 (00546)	400		A	225 .324	N/A	F1	Sand & Gravel	150	
Well No. 6 (00190)	200		A	300 .432	N/A	F1	Sand & Gravel	149	

A = Active, I = Inactive, SB = Standby

GROUNDWATER SAMPLING AND MONITORING HISTORY

The public water supply Wells No. 2 and 4 at Lake Villa were sampled as part of the Statewide Groundwater Monitoring Network on July 11, 1986 and Feb. 7, 1983 respectively. The sample from Well No. 2 was analyzed for volatile organic and aromatic chemicals (VOC/VOA) and from Wells No. 2 and 4 inorganic chemicals (IOC). The VOC/VOA analyses performed detected no quantifiable levels of organic chemicals in the well. The IOC analyses performed found the water from Wells 2 and 4 to meet all general use guidelines.

WELL SITE SURVEY METHODS AND PROCEDURES

The detailed well site survey consists of an aerial photographic map and inventory sheets, (Appendix B), that relate information about potential sources, routes, and possible problem sites to your water supply wells. The location of potential sources, routes, possible problem sites, water wells minimum setback zones and the 1,500 foot survey area are all displayed on the aerial photographic map.

The first page of each survey consists of a summary description and geologic profile for each well. The second and following pages of the survey inventory units within and bordering a 1,500 foot radius of the wellhead. A unit is defined as "any device, mechanism, equipment, or area (exclusive of land utilized only for agricultural production)". The Agency 5-digit well number is associated with unit or map code, and then classified. The classification codes relate to definitions of potential contamination sources and routes as defined in the Illinois Groundwater Protection Act (see Groundwater Primer pages 18-19). The distance and direction of the unit from the wellhead is also indicated.

SURVEY RESULTS AND FINDINGS

The well site survey of Lake Villa was conducted on February 6, 1992 by Laurie Moyer, Environmental Protection Specialist from the Agency's Rockford Regional Office. The following describes the results and findings for Lake Villa.

Lake Villa Well No. 2 (IEPA #20262) - The survey area is urban consisting partly of moderate density residential housing and slightly industrial businesses. The well is located on Belmont Avenue inside of pumphouse. There are no visible potential sources, routes or possible problem sites located within the minimum setback zone (400 feet). Five possible problem sites are located outside the minimum setback zone, but within the survey area (1500 feet). These sites are Brice Industries (Map Code 1) located 600 feet northeast of the well, Illinois Bell Telephone Co. (Map Code 2) located 500 feet east of the well, Boulton & Ridolfi Co., Inc (Map Code 3) located 600 feet southeast of the well, Bus garage (Map Code 4) located 675 feet southeast of the well and Vonco Products, Inc (Map Code 5) located 1000 feet southeast of the well.

Lake Villa Well No. 4 (IEPA #20264) - The survey area is urban consisting partly of moderate density residential housing and slightly industrial businesses. The well is located on Belmont Avenue outside of pumphouse. There are no visible potential sources, routes or possible problem sites located within the minimum setback zone (400 feet). Five possible problem sites are located outside the minimum setback zone but within the survey area (1500 feet). These sites are Brice Industries (Map Code 1) located 600 feet northeast of the well, Illinois Bell Telephone Co. (Map Code 2) located 500 feet east of the well, Boulton & Ridolfi Co., Inc (Map Code 3) located 600 feet southeast of the well, Bus garage (Map Code 4) located 675 feet southeast of the well and Vonco Products, Inc (Map code 5) located 1000 feet southeast of the well.

Lake Villa Well No. 5 (IEPA #00546) - The survey area is urban consisting partly of moderate density residential housing and slightly industrial businesses. The well is located behind a body shop off South Milwaukee Avenue. There are two visible potential sources, routes or possible problem sites located within the minimum setback zone (400 feet). These sites are Nick's Body Shop (Map Code 9) located 20 feet east of the well and Nielsen Enterprises (Map Code 10) located 325 feet southeast of the well. Eight possible problem sites are located outside the minimum setback zone, but within the survey area (1500 feet). These sites are Brice Industries (Map Code 1) located 900 feet west of the well, Illinois Bell Telephone Co. (Map Code 2) located 930 feet southwest of the well, Boulton & Ridolfi Co., Inc (Map Code 3) located 1100 feet southwest of the well, Bus garage (Map Code 4) located 1150 feet southwest of the well, Vonco Products Inc (Map Code 5) located 950 feet southwest of the well, Stan's Phillip 66 (Map Code 6) located 800 feet northwest of the well, Shell Kwik Pantry (Map Code 7) located 500 feet northwest of the well, and Auto Lube (Map Code 8) located 710 feet north of the well.

Lake Villa Well No. 6 (IEPA #00190) - The survey area is urban consisting entirely of moderate density residential housing. The well is located at the end of Oak Knoll Drive in the STP. There is one visible potential source, route or possible problem site located within the minimum setback zone (200 feet). This site is the Village of Lake Villa, Sewer Plant (Map Code 1) located 200 feet south of the well. There are no visible possible problem sites outside the minimum setback zone, but within the survey area (1500 feet).

SUMMARY

The well site survey conducted located several potential sources, routes, or possible problem sites within the minimum setback zone and survey area of each well. The sampling and monitoring to date has detected no contamination in the groundwater utilized by the facility.

The Illinois Environmental Protection Act provides minimum protection zones for your wells. These minimum protection zones are regulated by the IEPA. The Act also authorizes county and municipal officials the opportunity to provide maximum protection up to 1,000 feet. The responsibility for the control would then be assumed by local officials through adoption of a maximum setback zone ordinance.

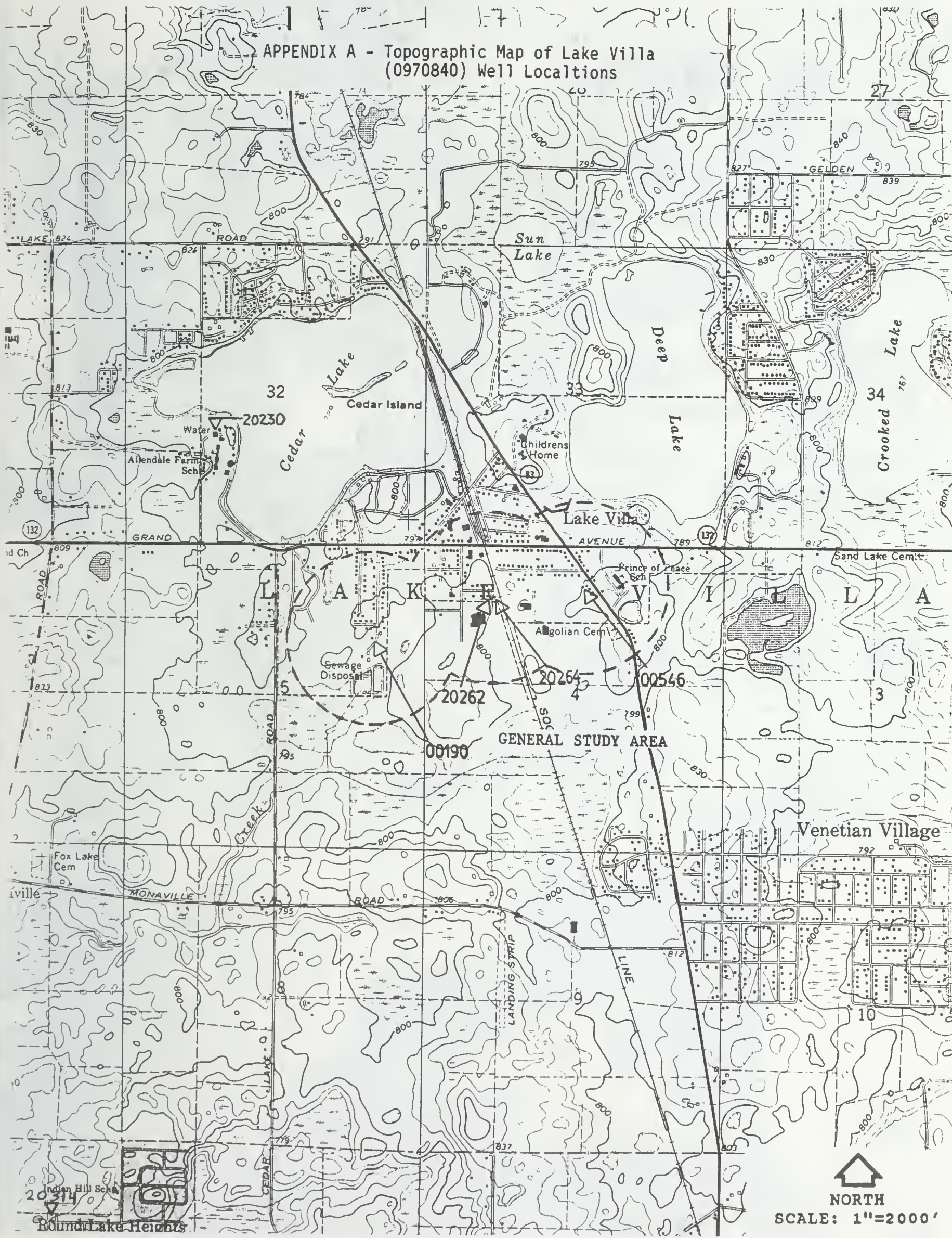
Maximum setback zones prohibit the siting of new potential primary sources of groundwater contamination. A maximum setback up to 1,000 feet could expand the regulatory coverage of certain and new activities. These controls could be implemented upon the adoption of proposed regulations by the Illinois Pollution Control Board.

RECOMMENDATIONS

The Agency strongly urges Lake Villa to consider establishing a maximum setback zone for its wells. The Agency has prepared a "Maximum Setback Zone Workbook" which provides detailed case studies of how to establish maximum setback zones. In addition, technical assistance is available from the Agency and the Illinois State Water Survey.

TECHNICAL APPENDICES

APPENDIX A - Topographic Map of Lake Villa (0970840) Well Localtions



NORTH
SCALE: 1"=2000'

00190

132

GRAND AVE

BURNETTE

LAURIE CT

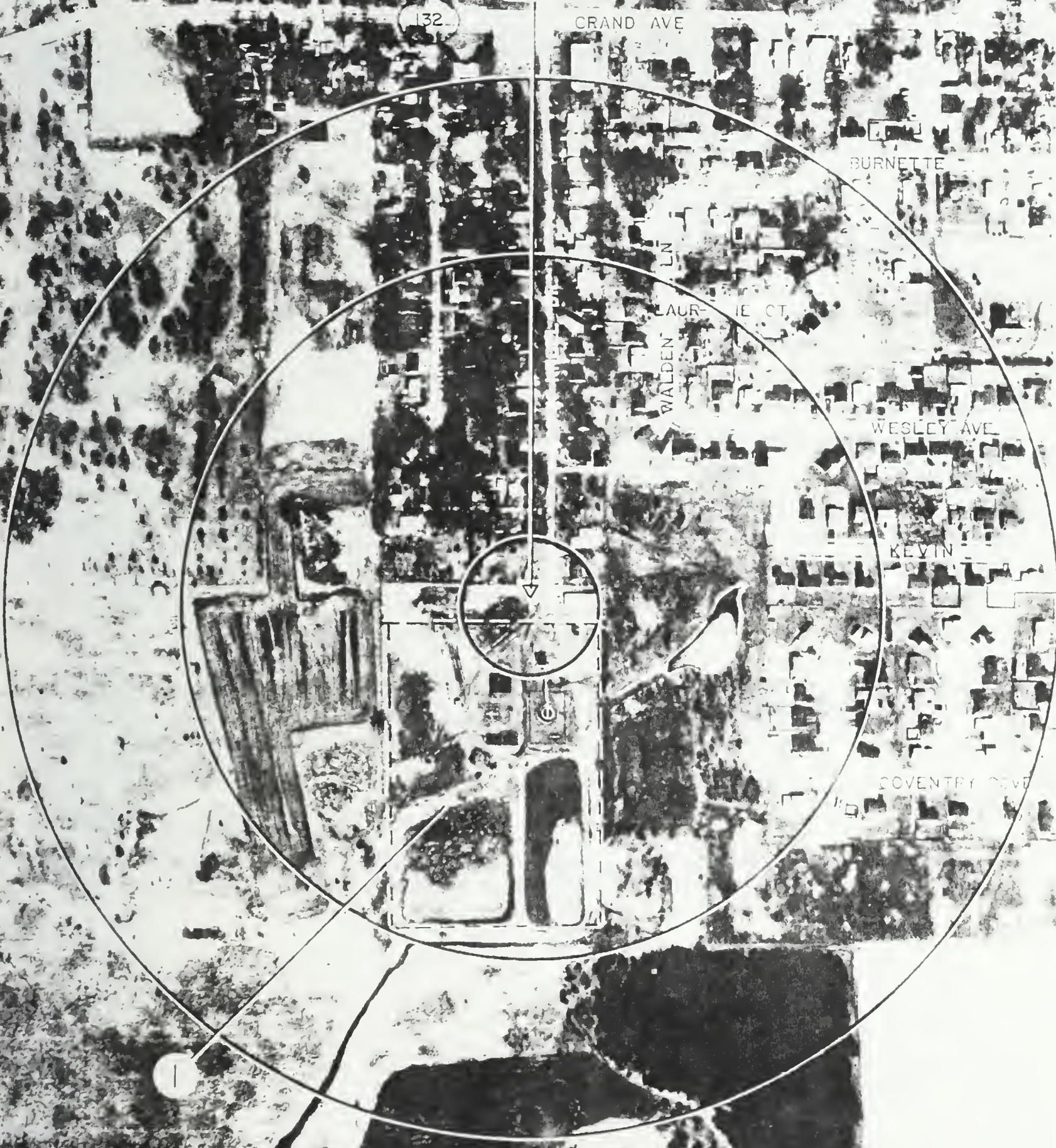
WALDEN

WESLEY AVE

KEVIN

COVENTRY CVD

NORTH
1"=400'
LAKE VILLA
0970840



Appendix B1 - WELL SITE SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Lake Villa Well No. 6 (IEPA #00190)

SURVEYOR: Moyer
SURVEY DATE: 02-06-92
ADDRESS: Lake Villa
P.O. Box 176
Lake Villa, IL 60046

AGENCY WELL NO.: 00190
WELL NAME & DESC: Well No. 6
TREATMENT APPLICATION POINT: 03
FACILITY NO. & NAME: 0970840 Lake Villa
FACILITY PHONE CONTACT:

LOCATION: TWP, RNG, SECTION, 10 ACRE PLOT: 45N, 10E, 05, 2F
DISTANCE FROM CORNER: 1700 South, 1250 West
QUAD SHEET CODE & NAME: 008A - Antioch
MIN. SETBACK: 200 feet
MAX. SETBACK:

SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: AX = alluvium, a mixture of gravel, sand, silt and clay along streams, variable in composition and thickness
AGE OF WELL (Date of Well Construction): 1986
WELL DEPTH: 149 feet
CASING DEPTH:
AQUIFER CODE: 0101
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is urban consisting entirely of moderate density residential housing.

APPENDIX B1 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 6 (IEPA #00190)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00190-01-OS

NAME & ADDRESS OF UNIT OWNER: Village of Lake Villa, Sewer Plant, S. Oak
Knoll Dr., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Sewer plant

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 200 feet south of the well

APPENDIX C

20262

20264

00546

132

6

8

7

9

10

BURNE

WESL

KEVIN

McKINNEY

1

2

3

4

5

NORTH
"=400"
KE VILLA
970840

20262 20264 100546

132

GRAND AVE

BURN

1000

400

200

200'

400'

PARK

Mc KINNEY

KEVIN

1

2

3

4

5

9

10



NORTH
" = 400'
LAKE VILLA
0970840

Appendix C1 - WELL SITE SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Lake Villa Well No. 2 (IEPA #20262)

SURVEYOR: Moyer
SURVEY DATE: 02-06-92
ADDRESS: Lake Villa
P.O. Box 176
Lake Villa, IL 60046

AGENCY WELL NO.: 20262
WELL NAME & DESC: Well No. 2
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 0970840 Lake Villa
FACILITY PHONE CONTACT:

LOCATION: TWP, RNG, SECTION, 10 ACRE PLOT: 45N, 10E, 04, 7G
DISTANCE FROM CORNER: 950 South, 1200 East
QUAD SHEET CODE & NAME: 008A - Antioch
MIN. SETBACK: 400 feet
MAX. SETBACK:

SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: AX = alluvium, a mixture of gravel, sand, silt and clay along streams, variable in composition and thickness.
AGE OF WELL (Date of Well Construction): 1961
WELL DEPTH: 156 feet
CASING DEPTH: 143 feet
AQUIFER CODE: 0101
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is urban consisting partly of moderate density residential housing and slightly industrial businesses.

APPENDIX C1 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 2 (IEPA #20262)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 20262-01
NAME & ADDRESS OF UNIT OWNER: Brice Industries, 120 Park Ave., Lake Villa,
IL 60046
DESCRIPTION AND COMMENTS: Light manufacturing, 1 registered underground
storage tank on site OSFM #2-025490
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 600 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20262-02
NAME & ADDRESS OF UNIT OWNER: Illinois Bell Telephone Co., 150 Park Ave.,
Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Telephone Company garage - 4 registered underground
storage tanks on site OSFM #2-007879. LUST site -
incident #912659 -IEPA #0970845012 - gas
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 500 feet east of the well

WELL NO. - MAP CODE - CLASSF*: 20262-03
NAME & ADDRESS OF UNIT OWNER: Boulton & Ridolfi Co., Inc., 200 Park Ave.,
Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Light manufacturing
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 600 feet southeast of the well

WELL NO. - MAP CODE - CLASSF*: 20262-04
NAME & ADDRESS OF UNIT OWNER: Bus Garage, Park Ave., Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Garage for school buses, 1 registered underground
storage tank on site OSFM #2-003538
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 675 feet southeast of the well

APPENDIX C1 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 2 (IEPA #20262)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 20262-05

NAME & ADDRESS OF UNIT OWNER: Vonco Products, Inc., 201 Park Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Manufacturer of plastic bags and special shapes

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1000 feet southeast of the well

WELL NO. - MAP CODE - CLASSF*: 20262-06

NAME & ADDRESS OF UNIT OWNER: Stan's Phillip 66, Rt 83 and 132, Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Service station, 4 registered underground storage tanks on site OSFM #2-016442

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1650 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20262-07

NAME & ADDRESS OF UNIT OWNER: Shell Kwik Pantry, Rt 83 and Grand Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Service station, 3 registered underground storage tanks on site OSFM #2-024440, LUST site - incident #881528 - IEPA #0970845007 - gas and unleaded gas

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1600 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20262-08

NAME & ADDRESS OF UNIT OWNER: Auto Lube, Rt 132, Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Auto service and repair

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1750 feet northeast of the well

APPENDIX C1 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 2 (IEPA #20262)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 20262-09

NAME & ADDRESS OF UNIT OWNER: Nick's Body Shop, 110 S. Milwaukee Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Auto body shop

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1600 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20262-10

NAME & ADDRESS OF UNIT OWNER: Nielsen Enterprises, 130 S. Milwaukee Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Motorcycle sales, 4 registered underground storage tanks on site OSFM #2-001105

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1780 feet east of the well

Appendix C2 - WELL SITE SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Lake Villa Well No. 4 (IEPA #20264)

SURVEYOR: Moyer
SURVEY DATE: 02-06-92
ADDRESS: Lake Villa
P.O. Box 176
Lake Villa, IL 60046

AGENCY WELL NO.: 20264
WELL NAME & DESC: Well No. 4
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 0970840 Lake Villa
FACILITY PHONE CONTACT:

LOCATION: TWP, RNG, SECTION, 10 ACRE PLOT: 45N, 10E, 04, 7G
DISTANCE FROM CORNER: 950 South, 1212 East
QUAD SHEET CODE & NAME: 008A - Antioch
MIN. SETBACK: 400 feet
MAX. SETBACK:

SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: AX = alluvium, a mixture of gravel, sand, silt and clay along streams, variable in composition and thickness.
AGE OF WELL (Date of Well Construction): 1971
WELL DEPTH: 153 feet
CASING DEPTH: 141 feet
AQUIFER CODE: 0101
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is urban consisting partly of moderate density residential housing and slightly industrial businesses.

APPENDIX C2 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 4 (IEPA #20264)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 20264-01

NAME & ADDRESS OF UNIT OWNER: Brice Industries, 120 Park Ave., Lake Villa,
IL 60046

DESCRIPTION AND COMMENTS: Light manufacturing, 1 registered underground
storage tank on site OSFM #2-025490

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 550 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-02

NAME & ADDRESS OF UNIT OWNER: Illinois Bell Telephone Co., 150 Park Ave.,
Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Telephone Company garage - 4 registered underground
storage tanks on site OSFM #2-007879, LUST site -
incident #912659 - IEPA #0970845012 - gas

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 470 feet southeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-03

NAME & ADDRESS OF UNIT OWNER: Boulton & Ridolfi Co., Inc., 200 Park Ave.,
Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Light manufacturing

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 550 feet southeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-04

NAME & ADDRESS OF UNIT OWNER: Bus Garage, Park Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Garage for school buses, 1 registered underground
storage tank on site OSFM #2-003538

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 650 feet southeast of the well

APPENDIX C2 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 4 (IEPA #20264)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 20264-05

NAME & ADDRESS OF UNIT OWNER: Vonco Products, Inc., 201 Park Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Manufacturer of plastic bags and special shapes

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 970 feet southeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-06

NAME & ADDRESS OF UNIT OWNER: Stan's Phillip 66, Rt 83 and 132, Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Service station, 4 registered underground storage tanks on site OSFM #2-016442

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1640 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-07

NAME & ADDRESS OF UNIT OWNER: Shell Kwik Pantry, Rt 83 and Grand Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Service station, 3 registered underground storage tanks on site OSFM #2-024440, LUST site - incident #881528 - IEPA #0970845007 - Gas and unleaded gas

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1600 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-08

NAME & ADDRESS OF UNIT OWNER: Auto Lube, Rt 132, Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Auto service and repair

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1720 feet northeast of the well

APPENDIX C2 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 4 (IEPA #20264)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 20264-09

NAME & ADDRESS OF UNIT OWNER: Nick's Body Shop, 110 S. Milwaukee Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Auto body shop

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1550 feet northeast of the well

WELL NO. - MAP CODE - CLASSF*: 20264-10

NAME & ADDRESS OF UNIT OWNER: Nielsen Enterprises, 130 S. Milwaukee Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Motorcycle sales, 4 registered underground storage tanks on site OSFM #2-001105

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1650 feet east of the well

Appendix C3 - WELL SITE SUMMARY DESCRIPTION AND GEOLOGIC PROFILE
Lake Villa Well No. 5 (IEPA #00546)

SURVEYOR: Moyer
SURVEY DATE: 02-06-92
ADDRESS: Lake Villa
P.O. Box 176
Lake Villa, IL 60046

AGENCY WELL NO.: 00546
WELL NAME & DESC: Well No. 5
TREATMENT APPLICATION POINT: 02
FACILITY NO. & NAME: 0970840 Lake Villa
FACILITY PHONE CONTACT:

LOCATION: TWP, RNG, SECTION, 10 ACRE PLOT: 45N, 10E, 04, 4G
DISTANCE FROM CORNER:
QUAD SHEET CODE & NAME: 008A - Antioch
MIN. SETBACK: 400 feet
MAX. SETBACK:

SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: AX = alluvium, a mixture of gravel, sand, silt and clay along streams, variable in composition and thickness.
AGE OF WELL (Date of Well Construction):
WELL DEPTH: 150 feet
CASING DEPTH:
AQUIFER CODE: 0101
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is urban consisting partly of moderate density residential housing and slightly industrial businesses.

APPENDIX C3 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 5 (IEPA #00546)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00546-01

NAME & ADDRESS OF UNIT OWNER: Brice Industries, 120 Park Ave., Lake Villa,
IL 60046

DESCRIPTION AND COMMENTS: Light manufacturing, 1 registered underground
storage tank on site OSFM #2-025490

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 900 feet west of the well

WELL NO. - MAP CODE - CLASSF*: 00546-02

NAME & ADDRESS OF UNIT OWNER: Illinois Bell Telephone Co., 150 Park Ave.,
Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Telephone Company garage - 4 registered underground
storage tanks on site OSFM #2-007879, LUST site -
incident #912659 - IEPA #0970845012 - gas

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 930 feet southwest of the well

WELL NO. - MAP CODE - CLASSF*: 00546-03

NAME & ADDRESS OF UNIT OWNER: Boulton & Ridolfi Co., Inc., 200 Park Ave.,
Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Light manufacturing

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1100 feet southwest of the well

WELL NO. - MAP CODE - CLASSF*: 00546-04

NAME & ADDRESS OF UNIT OWNER: Bus Garage, Park Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Garage for school buses, 1 registered underground
storage tank on site OSFM #2-003538

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 1150 feet southwest of the well

APPENDIX C3 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 5 (IEPA #00546)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00546-05
NAME & ADDRESS OF UNIT OWNER: Vonco Products, Inc., 201 Park Ave., Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Manufacturer of plastic bags and special shapes
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 950 feet southwest of the well

WELL NO. - MAP CODE - CLASSF*: 00546-06
NAME & ADDRESS OF UNIT OWNER: Stan's Phillip 66, Rt 83 and 132, Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Service station, 4 registered underground storage tanks on site OSFM #2-016442
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 800 feet northwest of the well

WELL NO. - MAP CODE - CLASSF*: 00546-07
NAME & ADDRESS OF UNIT OWNER: Shell Kwik Pantry, Rt 83 and Grand Ave., Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Service station, 3 registered underground storage tanks on site OSFM #2-024440, LUST site - incident #881528 - IEPA #0970845007 - Gas and Unleaded gas
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 500 feet northwest of the well

WELL NO. - MAP CODE - CLASSF*: 00546-08
NAME & ADDRESS OF UNIT OWNER: Auto Lube, Rt 132, Lake Villa, IL 60046
DESCRIPTION AND COMMENTS: Auto service and repair
PRE OR POST (Y, N): Yes
DISTANCE AND DIRECTION: 710 feet north of the well

APPENDIX C3 - INVENTORY & SYNOPSIS OF UNIT(S) Lake Villa Well No. 5 (IEPA #00546)

*CLASSF KEY

MIN. ZONE

PP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY
RI = ROUTE
CC = CERTIFIED
XI = UNKNOWN
CU = CLEANUP

OUTSIDE MIN. ZONE

OP = POTENTIAL PRIMARY
OS = POTENTIAL SECONDARY
OR = ROUTE
CC = CERTIFIED
OX = UNKNOWN
CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00546-09

NAME & ADDRESS OF UNIT OWNER: Nick's Body Shop, 110 S. Milwaukee Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Auto body shop

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 20 feet east of the well

WELL NO. - MAP CODE - CLASSF*: 00546-10-PS

NAME & ADDRESS OF UNIT OWNER: Nielsen Enterprises, 130 S. Milwaukee Ave., Lake Villa, IL 60046

DESCRIPTION AND COMMENTS: Motorcycle sales, 4 registered underground storage tanks on site OSFM #2-001105

PRE OR POST (Y, N): Yes

DISTANCE AND DIRECTION: 325 feet southeast of the well

APPENDIX D

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
FACILITY WELLS REPORT

REPORT: PWGMP053
MODULE: PWGMM027

FACILITY: 0970840 LAKE VILLA

----- OWNER ----- OFFICIAL CUSTODIAN -----

JOYCE F FRAYER KEITH PETERSON

VILLAGE HALL VILLAGE HALL

PO BOX 176 PO BOX 176

LAKE VILLA IL 60046 LAKE VILLA IL 60046

WELL: 00190 WELL 6 PITLS ADPTR BY STP OAK KNOLL DRIV STATUS: ACTIVE DEPTH(FT): 112
LATITUDE: 442 24 38.5 LONGITUDE: W088 05 08.0 TWP: 45N RNG: 10E SEC: 05 PLOT: 2F

SUSCEPTIBILITY - LAND BURIAL: SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0200 ---
AQUIFERS: PLEISTOCENE SERIES

WELL: 06546 W5 BEHIND BODY SHOP 108 S MILWAUKEE STATUS: ACTIVE DEPTH(FT): 150
LATITUDE: 442 24 48.0 LONGITUDE: W088 04 19.0 TWP: 45N RNG: 10E SEC: 04 PLOT: 4G

SUSCEPTIBILITY - LAND BURIAL: AX SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0400 ---
AQUIFERS: PLEISTOCENE SERIES

WELL: 20262 W2 145 BELMONT AV INSIDE JFPUMPHOUSE STATUS: ACTIVE BACKUP DEPTH(FT): 156
LATITUDE: 442 24 45.9 LONGITUDE: W088 04 21.1 TWP: 45N RNG: 10E SEC: 04 PLOT: 7G

SUSCEPTIBILITY - LAND BURIAL: AX SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0400 ---
AQUIFERS: QUATERNARY SYSTEM PLEISTOCENE SERIES

WELL: 20263 WELL 3 50 FT SOUTH OF VILLAGE HALL STATUS: INACTIVE# BACKUP DEPTH(FT): 154
LATITUDE: 442 24 53.3 LONGITUDE: W088 04 42.0 TWP: 45N RNG: 10E SEC: 04 PLOT: 4G

SUSCEPTIBILITY - LAND BURIAL: AX SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 400# ---
AQUIFERS: QUATERNARY SYSTEM PLEISTOCENE SERIES

WELL: 22264 WELL 4 145 BELMONT AVE OUTSIDE PMPHOUSE STATUS: ACTIVE DEPTH(FT): 153
LATITUDE: 442 24 46.0 LONGITUDE: W088 04 21.0 TWP: 45N RNG: 10E SEC: 04 PLOT: 7G

SUSCEPTIBILITY - LAND BURIAL: AX SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0400 ---
AQUIFERS: QUATERNARY SYSTEM PLEISTOCENE SERIES

SUSCEPTIBILITY CODES

LAND BURIAL: AX = ALLUVIUM, A MIXTURE OF GRAVEL, SAND, SILT, AND CLAY ALONG STREAMS, VARIABLE IN COMPOSITION AND THICKNESS.

*NOTE: INACTIVE WELLS SHOULD EITHER BE RETROFITTED FOR USE OR PROPERLY ABANDONED. INACTIVE WELLS WHICH ARE IMPROPERLY ABANDONED ARE CONSIDERED POTENTIAL ROUTES ACCORDING TO P.A. 85-0863.

APPENDIX E

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
SELECTED SAMPLE EXPANDED REPORT

REPORT: PWGMP048
MODULE: PWGMM026

PAGE: 81
DATE: 07/13/92

FACILITY: 0970840 LAKE VILLA STATUS: A PUBLIC: Y COMM: Y TYPE WATER: G
TAP: 01 W2 C W4 COMMON DISCH CL DISTR SYSTEM STATUS: A
RAW SRCE: 20262 W2 145 BELMONT AV INSIDE OF PUMPHOUSE STATUS: A

SAMPLE NO: 2004872 LOCATION: WELL COLL DATE: 07/11/86 DELIVERED BY:
SMPL TYPE: RAW COLLECTOR: IEPA SMPL COLLECTOR LAB RCVD: 00/00/00 RECEIVED BY:
SMPL PURP: S-SPEC/OTHR COMMENTS: LAB COMPL: 00/00/00 LAB SUPERVISOR:
SMPL PROG: B-GWM PEST OBSRVATNS: SMPL PERIOD: 07/86 FUND CODE:

ANALYSIS RSLT -----STORET-----
ID NO NO DESCRIPTION UNITS RESULT DRINK WTR RAW WTR TRIGGER LEVEL

000001	01	39023	PHORATE UG/L		0.050	<		
000001	002	39300	P,P'-DDT UG/L		0.010	<		
000001	003	39305	S,P'-DDT UG/L		0.010	<		
000001	004	39310	P,P'-DDD UG/L		0.010	<		
000001	005	39315	O,P'-DDD UG/L		0.010	<		
000001	006	39320	P,P'-DDE UG/L		0.010	<		
000001	007	39327	O,P'-DDE UG/L		0.010	<		
000001	008	39330	ALDRIN UG/L		0.010	<	1.000	
000001	009	39340	LINDANE UG/L		0.010	<	4.000	
000001	010	39356	HEPTACHLOR (DUAL) UG/L		0.100	<		
000001	011	39380	DIELORIN UG/L		0.010	<	1.000	
000001	012	39390	ENDRIN UG/L		0.010	<	0.200	
000001	013	39398	ETHION UG/L		0.050	<		
000001	014	39400	TOXAPHENE UG/L		1.000	<	5.000	
000001	015	39410	HEPTACHLOR UG/L		0.010	<	0.100	
000001	016	39420	HEPTACHLOR EPOXIDE UG/L		0.010	<	0.100	
000001	017	39480	METHOXYCHLOR UG/L		0.050	<	100.000	
000001	018	39516	TOTAL PCB'S UG/L		0.100	<		
000001	019	39530	MALATHION UG/L		0.050	<		
000001	020	39570	DIAZINON UG/L		0.050	<		
000001	021	39600	METHYL PARATHION UG/L		0.050	<		
000001	022	39630	ATRAZINE (AATREX) UG/L		0.050	<	10.000	
000001	023	39730	2,4-D UG/L		0.010	<	10.000	
000001	024	39760	SILVEX UG/L		0.010	<		
000001	025	39810	GAMMA CHLOROANE UG/L		0.010	<		
000001	026	77825	ALACHLOR UG/L		0.020	<		
000001	027	81294	DYFOMATE UG/L		0.050	<		
000001	028	81403	DURSAR UG/L		0.050	<		
000001	029	81757	CYANAZINE UG/L		0.050	<		
000001	030	82088	TERBUFOS (COUNTER) UG/L		0.050	<		
000001	031	00010	WATER TEMPERATURE DEG C		11.500			
000001	032	00059	FLOW (PUMPING) RATE GAL/MIN		120.000			
000001	033	00090	OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS		157.000-			
000001	034	00095	CONDUCTIVITY(EC)-LAB(CUMHOS/CM @ 25 C		305.000			
000001	035	00400	PH PH UNITS		7.700			
000001	036	72004	FLOW (PUMPING) TIME PRIOR TO SAMPLING MIN		80.000			
000001	037	72019	DEPTH FROM LAND SURFACE TO WATER SURFACE		104.000			

SAMPLE NO: 2004871 LOCATION: WELL COLL DATE: 06/19/85 DELIVERED BY:
SMPL TYPE: RAW COLLECTOR: IEPA SMPL COLLECTOR LAB RCVD: 00/00/00 RECEIVED BY:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
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REPORT: PWGMP048
MODULE: PWGMM026

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FACILITY: 0970840 LAKE VILLA				LAB COMPL: 00/00/00 LAB SUPERVISOR:				FUND CODE:			
SMPL PURP: 5-SPEC/OTHR COMMENTS:				SMPL PERIOD: 06/85							
SMPL PROG: I-GWM INORG OHSRVATNS:											
ANALYSIS	RSLT	NO	NO	DESCRIPTION	UNITS	RESULT	ORINK WTR	RAW WTR	TRIGGER	LEVEL	
ID											
0000001	001	00610		NITROGEN,AMMONIA TOTAL MG/L AS N		0.320					
0000001	002	00630		NITRATE & NITRITE TOTAL MG/L AS N		0.100 <	10.000				
0000001	003	00665		PHOSPHORUS, TOTAL MG/L AS P		0.010					
0000001	004	00720		CYANIDE, TOTAL MG/L AS CN		0.010 <	0.200				
0000001	005	00916		CALCIUM, TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		42.000					
0000001	006	00927		MAGNESIUM, TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		48.000					
0000001	007	00929		SODIUM, TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP		30.000					
0000001	008	00937		POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP		1.100					
0000001	009	00940		CHLORIDE, TOTAL MG/L AS CL		1.400					
0000001	010	00945		SULFATE, TOTAL MG/L AS SO4		78.000					
0000001	011	00951		FLUORIDE, TOTAL MG/L AS F		0.900	4.000				
0000001	012	00956		SILICA, TOTAL MG/L AS SiO2		28.000					
0000001	013	01002		ARSENIC, TOTAL RECOVERABLE UG/L AS AS		6.000	50.000				
0000001	014	01007		BARIUM, TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP		49.000	1000.000				
0000001	015	01012		PERYLLIUM, TOTAL RECOVERABLE UG/L AS RE ANAL BY ICP		0.500 <					
0000001	016	01022		BORON, TOTAL RECOVERABLE UG/L AS B ANAL BY ICP		208.000					
0000001	017	01027		CADMIUM, TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB		3.000 <	10.000				
0000001	018	01034		CHROMIUM, TOTAL RECOVERABLE UG/L AS CR ANAL BY ICB		5.000 <	50.000				
0000001	019	01037		COBALT, TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP		5.000 <					
0000001	020	01042		COPPER, TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP		5.000 <	5000.000				
0000001	021	01045		IRON, TOTAL RECOVERABLE, UG/L AS FE ANAL BY ICP		580.000	1000.000				
0000001	022	01051		LEAD, TOTAL RECOVERABLE UG/L AS PB		5.000 <	50.000				
0000001	023	01055		MANGANESE, TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP		5.000	150.000				
0000001	024	01067		NICKEL, TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP		5.000 <					
0000001	025	01077		SILVER, TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP		3.000 <	50.000				
0000001	026	01082		STRONTIUM, TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP		1111.000					
0000001	027	01087		VANADIUM, TOTAL RECOVERABLE UG/L AS V ANAL BY ICP		5.000 <					
0000001	028	01092		ZINC, TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP		50.000 <	5000.000				
0000001	029	01105		ALUMINUM, TOTAL RECOVERABLE UG/L AS AL ANAL BY ICP		50.000 <					
0000001	030	01147		SELENIUM, TOTAL RECOVERABLE UG/L AS SE		1.000 <	10.000				
0000001	031	32730		PHENOLS, TOTAL RECOVERABLE UG/L		5.000 <					
0000001	032	70300		RESIDUE, TOTAL FILTERABLE @180 C, MG/L		471.000					
0000001	033	71900		MERCURY, TOTAL UG/L AS HG		0.010 <	2.000				
0000001	034	50010		WATER TEMPERATURE DEG C		12.000					
0000001	035	00059		FLOW (PUMPING) RATE GAL/MIN		115.000					
0000001	036	00090		OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS		189.000-					
0000001	037	00095		CONDUCTIVITY(CEC)-LAB(CUMHOS/CM @ 25 C		625.000					
0000001	038	00400		PH PH UNITS		7.700					
0000001	039	00410		ALKALINITY, TOTAL MG/L AS CaCO3		303.000					
0000001	040	72004		FLOW (PUMPING) TIME PRIOR TO SAMPLING MIN		60.000					
0000001	041	72019		DEPTH FROM LAND SURFACE TO WATER SURFACE		113.000					
0000001	042	90410				302.000					

SAMPLE NO: Z904874 LOCATION: WELL COLL DATE: 06/19/85 DELIVERED BY:

FACILITY: 0970840 LAKE VILLA

SMPL TYPE: RAW	COLLECTOR: IEPA SMPL COLLECTOR
SMPL PURP: 5-SPEC/OTHR	COMMENTS:
SMPL PROG: 1-GWM INORG	OBSRVATNS:

LAB RCVD: 00/00/00	RECEIVED BY:
LAB COMPL: 00/00/00	LAB SUPERVISOR:
SMPLE PERIOD: 06/85	FUND CODE:

SAMPLE NO: 3023971 LOCATION: WELL #2

COLL DATE: 02/07/83 OELIVERED BY:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES
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FACILITY: 0970840 LAKE VILLA

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SMPL TYPE: RAW
SMPL PURP: 1-ROUTINE
SMPL PRG: I-GWM INORG O3SRVATNS

LAB RCVD: 03/15/83
LAB COMPL:
SMPL PERIOD: 02/83

RECEIVED BY:
LAB SUPERVISOR:
FUND CODE:

ANALYSIS RSLT NO NO NO DESCRIPTION

UNITS RESULT ORINK MTR RAW MTR TRIGGER LEVEL

00095	CONDUCTIVITY(CEC)-LAB(CUMHOS/CM @ 25 C	670.000			
00403	PH LABORATORY UNITS	7.800			
00410	ALKALINITY, TOTAL MG/L AS CaCO3	296.000			
00610	NITROGEN, AMMONIA TOTAL MG/L AS N	0.370			
00630	NITRATE & NITRITE TOTAL MG/L AS N	0.100 <	10.000		
00720	CYANIDE, TOTAL MG/L AS CN	0.005 <	0.200		
00900	HARDNESS, TOTAL MG/L AS CaCO3	318.000			
00916	CALCIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP	48.000			
00927	MAGNESIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP	51.800			
00929	SODIUM, TOTAL RECOVERABLE MG/L AS Na ANAL BY ICP	28.000			
00937	POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	1.500			
00940	CHLORIDE, TOTAL MG/L AS CL	2.000			
00945	SULFATE, TOTAL MG/L AS SO4	85.000			
00951	FLUORIDE, TOTAL MG/L AS F	0.900	4.000		
00956	SILICA, TOTAL MG/L AS SiO2	30.000			
01002	ARSENIC, TOTAL RECOVERABLE UG/L AS AS	6.000	50.000		
01007	BARIUM, TOTAL RECOVERABLE UG/L AS Ba ANAL BY ICP	49.000	1000.000		
01012	BERYLLIUM, TOTAL RECOVERABLE UG/L AS Be ANAL BY ICP	0.500 <			
01022	BORON, TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	260.000			
01027	CADMIUM, TOTAL RECOVERABLE UG/L AS Cd ANAL BY ICP	3.000 <	10.000		
01034	CHROMIUM, TOTAL RECOVERABLE UG/L AS Cr ANAL BY ICP	5.000 <	50.000		
01037	COBALT, TOTAL RECOVERABLE UG/L AS Co ANAL BY ICP	5.000 <			
01042	COPPER, TOTAL RECOVERABLE UG/L AS Cu ANAL BY ICP	3.000 <	5000.000		
01045	IRON, TOTAL RECOVERABLE, UG/L AS Fe ANAL BY ICP	570.000	1000.000		
01051	LEAD, TOTAL RECOVERABLE UG/L AS Pb	5.000 <	50.000		
01055	MANGANESE, TOTAL RECOVERABLE UG/L AS Mn ANAL BY ICP	5.000 <	150.000		
01067	NICKEL, TOTAL RECOVERABLE UG/L AS Ni ANAL BY ICP	20.000 <			
01077	SILVER, TOTAL RECOVERABLE UG/L AS Ag ANAL BY ICP	5.000 <	50.000		
01082	STRONTIUM, TOTAL RECOVERABLE UG/L AS Sr ANAL BY ICP	1200.000			
01087	VANADIUM, TOTAL RECOVERABLE UG/L AS V ANAL BY ICP	4.000 <			
01092	ZINC, TOTAL RECOVERABLE UG/L AS Zn ANAL BY ICP	4.000	5000.000		
01147	SELENIUM, TOTAL RECOVERABLE UG/L AS Se	1.000 <	10.000		
70300	RESIDUE, TOTAL FILTERABLE 3180 C, MG/L	418.000			
70304	TOTAL DISSOLVED SOLIDS MG/L BY EC	400.000			
71900	MERCURY, TOTAL UG/L AS Hg	0.070	2.000		

SAMPLE NO: Z004873
SMPL TYPE: RAW
SMPL PURP: 5-SPEC/OTHR
SMPL PRG: V-VOC

LOCATION: WELL
COLLECTOR: IEPA SMPL COLLECTOR
COMMENTS:
O3SRVATNS:

COLL DATE: 06/19/85
LAB RCVD: 00/00/00
LAB COMPL: 00/00/00
SMPL PERIOD: 06/85

DELIVERED BY:
RECEIVED BY:
LAB SUPERVISOR:
FUND CODE:

*** CONTINUED ***

FACILITY:	1971840 LAKE VILLA	STATUS: A	PUBLIC: Y	COMM: Y	TYPE	WATER: G
TAP:	G1 W2 & W4 COMMON OISCH CL DISTR SYSTEM	STATUS: A				
RAW SRC:	20264 WELL 4 145 BELMONT AVE OUTSIDE PMPHOUSE	STATUS: A				
SAMPLE NO:	4023973	LOCATION:	WELL #4	COLL DATE:	12/07/83	DELIVERED BY:
SAMPLE TYPE:	RAW	COLLECTOR:	KEITH PETERSON	LAB RCVD:	03/15/83	RECEIVED BY:
SAMPLE PURP:	1-ROUTINE	COMMENTS:		LAB COMPL:		LAB SUPERVISOR:
SAMPLE PROG:	2-GWM INORG DBSRVATNS:			SMPL PERIOD:	12/83	FUND CODE:

ANALYSIS		RSLT		STREET		STANDARD		TRIGGER	
IC	NO	NO	DESCRIPTION	UNITS	RESULT	DRINK	WTR	RAW	WTR
	00095		CONDUCTIVITY(CE)-LAB(CUMHOS/CM @ 25 C		610.000				
	00403		PH LABORATORY UNITS		8.000				
	00410		ALKALINITY, TOTAL MG/L AS CaCO3		270.000				
	00610		NITROGEN, AMMONIA TOTAL MG/L AS N		0.380				
	00630		NITRATE & NITRITE TOTAL MG/L AS N		0.100		10.000		
	00720		CYANIDE, TOTAL MG/L AS CN		0.005		0.200		
	00900		HARDNESS, EDTA MG/L AS CaCO3		271.200				
	00916		CALCIUM, TOTAL RECOVERABLE MG/L AS Ca ANAL BY ICP		40.000				

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
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FACILITY: 0970840 LAKE VILLA

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00927	MAGNESIUM, TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	45.500
00929	SODIUM, TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP	31.000
00937	POTASSIUM, TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	1.300
00940	CHLORIDE, TOTAL MG/L AS CL	1.100
00945	SULFATE, TOTAL MG/L AS SO4	76.000
00951	FLUORIDE, TOTAL MG/L AS F	0.920
00956	SILICA, TOTAL MG/L AS S102	27.000
01002	ARSENIC, TOTAL RECOVERABLE UG/L AS AS	5.000
01007	BARIUM, TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP	53.000
01012	BERYLLIUM, TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP	0.500
01022	BORON, TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	300.000
01027	CADMIUM, TOTAL RECOVERABLE UG/L AS CD ANAL BY ICP	3.000
01034	CHROMIUM, TOTAL RECOVERABLE UG/L AS CR ANAL BY ICP	5.000
01037	COBALT, TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP	5.000
01042	COPPER, TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	3.000
01045	IRON, TOTAL RECOVERABLE UG/L AS FE ANAL BY ICP	390.000
01051	LEAD, TOTAL RECOVERABLE UG/L AS PB	5.000
01055	MANGANESE, TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP	5.000
01067	NICKEL, TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP	15.000
01077	SILVER, TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP	5.000
01082	STRONTIUM, TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	1290.000
01087	VANADIUM, TOTAL RECOVERABLE UG/L AS V ANAL BY ICP	4.000
01092	ZINC, TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	6.000
01147	SELENIUM, TOTAL RECOVERABLE UG/L AS SE	1.000
70300	RESIDUE, TOTAL FILTERABLE 0180 C, MG/L	396.000
70304	TOTAL DISSOLVED SOLIDS MG/L BY EC	370.000
71900	MERCURY, TOTAL UG/L AS HG	0.050

APPENDIX F

HAZARD REVIEW WORKSHEET

1. Unique I.D. Number 00546-09 - -, Distance and Direction from the Wellhead 20 feet east of the well
2. Nature of Business auto body shop
3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.):
NA
4. DAPC Permit Number(s) and Description: NA
5. DWPC Permit Numbers and Description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.):
NA
6. ERU Incidents and Description: NA
7. ERU 313 Reports and Description: NA
8. ESDA 302/303 Reports and Description: NA
9. ESDA 311/312 Reports and Description: NA
10. PWS compliance monitoring conducted and describe the results (e.g., VOC/VOA sample detects, etc.):
No samples taken at this time 2-25-92
11. ISFH list the underground storage tanks registered, provide the owner name and address:

Owner Name	Address
12. Is the site sewered or non-sewered? sewered
If the site is not sewered, describe: _____

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?

☐ Yes. If yes, describe: _____

☒ No.

14. Are there currently any on-site piles of special or hazardous waste?

☐ Yes. If yes, describe: _____

☒ No.

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?

☐ Yes.

☐ No. If no, describe: _____

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?

☐ Yes. If yes, describe: _____

☒ No.

17(a). Has any situation(s) occurred at this site which resulted in a "release" of any hazardous substance or petroleum?

☐ Yes (continue to next question)

☒ No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note—do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

☐ Yes (continue to next question)

☐ No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

☐ Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

☐ Replacement or major repair of damaged facilities

☐ Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

☐ Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

☐ Reordering or other replenishment of inventory due to the amount of substance lost

☐ Temporary or more long-term monitoring of groundwater at or near the site

☐ Stop usage of an on-site or nearby water well because of offensive characteristics of the water

☐ Coping with fumes from subsurface storm drains or inside basements

☐ Signs of substances leaching out of the ground along the base of slopes or at other lowpoints on or adjacent to the site

(d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

☐ Yes. If yes, describe: _____

☒ No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

☐ Yes. If yes, describe: _____

☒ No.

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

☐ Yes. If yes, describe: _____

☒ No.

RC: jmm/sp0067K/1-5

HAZARD REVIEW WORKSHEET

1. Unique I.D. Number 00546-10-PS, Distance and Direction from the Wellhead 325 feet southeast of the well
2. Nature of Business motorcycle sales & service
3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): NA
4. DAPC Permit Number(s) and Description: NA
5. DWPC Permit Numbers and Description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): NA
6. ERU Incidents and Description: NA
7. ERU 313 Reports and Description: NA
8. ESDA 302/303 Reports and Description: NA
9. ESDA 311/312 Reports and Description: NA
10. PWS compliance monitoring conducted and describe the results (e.g., VOC/VOA sample detects, etc.):
no samples taken at this time 2-25-92
11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name	Address
<u>Ted L. Nielsen</u>	<u>130 S. Milwaukee Ave.</u>
<u></u>	<u>Lake Villa, IL</u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
12. Is the site sewered or non-sewered? sewered
If the site is not sewered, describe:

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?

☐ Yes. If yes, describe: _____

☒ No.

14. Are there currently any on-site piles of special or hazardous waste?

☐ Yes. If yes, describe: _____

☒ No.

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?

☐ Yes.

☐ No. If no, describe: _____

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?

☒ Yes. If yes, describe: 4 registered underground storage tanks on site.
OSFM #2 - 001105

☐ No.

17(a). Has any situation(s) occurred at this site which resulted in a "release" of any hazardous substance or petroleum?

☐ Yes (continue to next question)

☒ No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

☐ Yes (continue to next question)

☐ No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

☐ Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

☐ Replacement or major repair of damaged facilities

☐ Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

☐ Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

☐ Reordering or other replenishment of inventory due to the amount of substance lost

☐ Temporary or more long-term monitoring of groundwater at or near the site

☐ Stop usage of an on-site or nearby water well because of offensive characteristics of the water

☐ Coping with fumes from subsurface storm drains or inside basements

☐ Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

- (d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

☐ Yes. If yes, describe: _____

☐ No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

☐ Yes. If yes, describe: _____

☐ No.

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

☒ Yes. If yes, describe: Any below ground fuel tank in close proximity to a water well is a potential hazard to groundwater.

☐ No.

RC: jmm/sp0067K/1-5

APPENDIX G

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug . Bored . Hole Diam. 10 in. Depth 149 ft.
Curb material . Buried Slab: Yes No
b. Driven . Drive Pipe Diam. in. Depth ft.
c. Drilled X. Finished in Drift X. In Rock .
Tubular . Gravel Packed .
d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:

- Building Ft. Seepage Tile Field
Cess Pool Sewer (non Cast iron)
Privy Sewer (Cast iron)
Septic Tank Barnyard
Leaching Pit Manure Pile

3. Well furnishes water for human consumption? Yes X No
4. Date well completed 3/20/86

5. Permanent Pump Installed? Yes X Date 5/1/86 No
Manufacturer Red Seal Type 546M Location
Capacity 120 gpm. Depth of Setting 120 Ft.

6. Well Top Sealed? Yes No Type X
7. Pitless Adapter Installed? Yes No X
Manufacturer Model Number

How attached to casing?

8. Well Disinfected? Yes X No
9. Pump and Equipment Disinfected? Yes X No
10. Pressure Tank Size gal. Type
Location

11. Water Sample Submitted? Yes X No

REMARKS:

Caution 12/1/85

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Village of Lake Villa Well No. #6

Address PO Box 176, Lake Villa, IL 60046

Driller George E. Caffee License No. 192-2342

Permit No. 122-321 Date 2/19/86

12. Water from GRAVEL TO SAND 13. County LAKE

at depth 112 to 149 ft.

14. Screen: Diam. 7 in.

Length: 32' ft. Slot

Sec. 5^{2E}

Twp. 45N

Rge. 10E

Elev. 195

15. Casing and Liner Pipe 1700'S 1250'S NE

Diam. (In.)	Kind and Weight	From (Ft.)	To (Ft.)
10	PIPE	0	117

SHOW LOCATION IN SECTION PLAT

(Municipal Well)

16. Size Hole below casing: 10 in.

17. Static level 76 ft. below casing top which is ft. above ground level. Pumping level ft. when pumping at 120 gpm for hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
BROWN CLAY	13	13
BLUE CLAY	56	69
SAND	14	83
BLUE CLAY	4	87
SAND - LT GRAVEL	6	93
BLUE CLAY	12	105
SANDY BLUE CLAY	3	108
HARD PEA	2	110
SANDY BLUE CLAY	2	112

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED George E. Caffee DATE 7/2/86

FORMATIONS PASSED THRU	THICKNESS	DEPTH OF BOTTOM
SAND & GRAVEL	14	126
SAND	23	149
BLUE CLAY	9	158
FINE MURKY SAND	10	168
SANDY BLUE CLAY	12	180
BLUE CLAY	15	195

100
 200
 300
 400
 500
 600
 700
 800
 900
 1000
 1100
 1200
 1300
 1400
 1500
 1600
 1700
 1800
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 9900
 10000

After the additional screen was installed, a production test was conducted on October 11 and 13, 1939, to determine the effectiveness of the repairs to exclude the sand. Water was pumped at a rate of 85 gpm for periods of 3 to 4 hr with nonpumping intervals of about 1 hr. The pump discharged into a steel tank from which the sand was collected when pumping stopped. The amount of sand was dried and weighed. These tests indicated that the amount of sand pumped decreased from 0.19 to 0.04 mg/l. The nonpumping water level before the test was 45 ft below the pump base and during the tests, the pumping water levels were 78 to 79 ft below the pump base.

A mineral analysis of a sample (Lab. No. 107531) collected August 29, 1946, after pumping for 3 hr at 80 gpm, showed the water to have a hardness of 164 mg/l, total dissolved minerals of 324 mg/l, and an iron content of 0.4 mg/l.

WELL NO. 2, finished in sand and gravel, was completed in April 1961 to a depth of 156 ft by the Hoover Water Well Service, Zion. The well is located at 145 Belmont Ave., 2 blocks south of Illinois Route 132 and immediately west of the Soo Line RR tracks, approximately 950 ft S and 1200 ft E of the NW corner of Section 4, T45N, R10E. The land surface elevation at the well is approximately 800 ft.

A drillers log of Well No. 2 follows:

Strata	Thickness (ft)	Depth (ft)
Glacial drift	15	15
Clay	125	140
Sand and gravel	16	156

A 6-in. diameter hole was drilled to a depth of 156 ft. The well is cased with 6-in. threaded steel pipe from 1.5 ft above land surface to a depth of 143 ft followed by 13 ft (15 ft overall length) of 6-in. No. 15 slot red brass screen.

Upon completion, the well reportedly produced 110 gpm for 4 hr with a drawdown of 41 ft from a nonpumping water level of 66 ft below land surface.

The pumping equipment presently installed is a Red Jacket submersible pump set at 125 ft, rated at 150 gpm at about 310 ft TDH, and powered by a 10-hp Franklin electric motor (Model No. 1006F5).

A partial analysis of a sample (Lab. No. 155224) made in July 1961, after pumping for 4 hr at 110 gpm, showed the water to have a hardness of 324 mg/l, total dissolved minerals of 374 mg/l, and an iron content of 0.7 mg/l.

WELL NO. 3, finished in sand and gravel, was completed in March 1963 to a depth of 154 ft by the Henry Boysen Co., Libertyville. This well is available for emergency use. The well is located 200 ft west of Illinois Route 83 and 200 ft south of Burnette St., approximately 1000 ft S and 3000 ft E of the NW corner of Section 4, T45N, R10E. The land surface elevation at the well is approximately 810 ft.

A drillers log of Well No. 3 follows:

0970840

EPAT 20264

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 7-13-71

10. Property owner Village of Lake Villa Well No. 4

Address Lake Villa, Illinois 60046

Driller HENRY BOYSEN COMPANY License No. 92-480

11. Permit No. F 11283 Date 6-17-71

12. Water from Glacial Drift 13. County Lake

Formation

at depth to ft.

Sec. 4

14. Screen: Diam. 8 in.

Twp. 45N

Length: 12 ft. Slot 15

Rge. 8E/0E

Elev. 720

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
8	Steel Sch. 40	Grade	138'

SHOW
LOCATION IN
SECTION PLAT
1000' NL 1200'
WL of NW
(permit)

16. Size Hole below casing: 8 in.

17. Static level 74 ft. below casing top which is 2 ft.
above ground level. Pumping level 121 ft. when pumping at 250
gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	138	138
Sand	15	153

Municipal Water Supply

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED

[Signature]

DATE

7-21-71

COLLECT No. 3285

LAKE

4-45N-10E

UNIVERSITY OF ILLINOIS-URBANA



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